IWDG Irish Whale and Dolphin Group

Geoscience Regulation Office
Dept. of the Environment, Climate & Communciations
29-31 Adelaide Road,
Dublin
D02 X285
Email: gsro@decc.gov.ie

17th November 2021

Dear Sir or Madam

Re: Plans of Development for Kinsale and Seven Heads fields (no reference number)

The Irish Whale and Dolphin Group (IWDG) was established in December 1990 and is an All-Ireland group *"dedicated to the conservation and better understanding of cetaceans (whales, dolphins and porpoises) in Irish waters through study, education and interpretation"*. While the IWDG is primarily concerned with cetaceans we have broadened our comments to include **all marine mammals**.

IWDG welcomes the opportunity to comment on the development plans for the Kinsale and Seven Heads decommissioning and all points made refer to both applications which are identical.

It is generally recognised from the noise levels supplied with the application that these are not sufficient to pose a serious threat or disturbance to cetaceans, except in the immediate vicinity of activites. However on pages 187 and 188 (Kinsale Development EIAR, vol. 2) the claim the Doppler Velocity logs are inaudible to marine mammals is correct because of their high frequency, but the assertion that USBL systems are "*not expected to be discernible from the broadband noise of associated vessels*" is either incorrect or else these vessels will produce a lot of noise in unsual frequencies which requires strict mitigation. Furthermore while the frequencies of 20 to 40 kHz for the operating range of USBL systems is roughly correct. The widely used Kongsberg (2016) USBL systems, such as HiPAP 502, HiPAP 452 and HiPAP 352 operate between 21 and 31 kHz and the SonarDyne (no date) ROVnav6, chosen as an example in the EIAR operates between 19 and 34 kHz and the Tritech MicroNav from 20 to 28 kHz (Tritech, no date). Some USBL systems intended for deepwater operation such as the HiPAP 102 use frequencies from 10 to 15.5 kHz. Transponder source levels with Kongsberg depend on setup and mode of operation but vary from 190 dB to 206 dB re1µPa@1 m (Kongsberg, 2016) and the Sonardyne system operates at 187 to 196 dB re1µPa@1 m. The operating source levels of the Trictech system are not available. Therefore the information

Irish Whale and Dolphin Group Ltd.,
Merchant's Quay, Kilrush, Co. Clare, V15 E762, Ireland
Tel: +353 (0)65 9051763 ~ 086 854 5450
Email: enquiries@iwdg.ie website: www.iwdg.ie
Registered Charity No.: CHY11163 : Limited Company No. 332093

on the USBL if based on the Sonardyne system alone and some 10dB lower then systems that may be used, lacks full consideration of source level impact. 10dB represents a trebling of sound pressure levels.

The Multi-beam and Side Scan Sonar systems are stated as having frequency usage of 200-400kHz and 114 or 410 kHz respectively. It should be also remembered that these are target frequencies for this equipment and such equipment will produce side lobes of energy in secondary frequencies (Deng et al, 2014, Lurton and DeRuiter, 2011)). These frequencies have only been found below injury levels to date and therefore only represent a possible disturbance threat.

Such decommissioning work has never been carried out in Irish waters previously. The equipment models to be used are assumed and the frequency range and source levels not necessarily completely accurate. While it seems unlikely that sound levels will reach those high enough to cause temporary threshold shift, disturbance is entirely possible. In order to properly assess the impact of the decommissioning activities there should be acoustic monitoring of activities in the frequencies used by marine mammals up to 48kHz as a minimum, and ideally to 200kHz. Noise levels encountered in noise monitoring must be explained, with the source identified. The IWDG have called for German regulations for windfarm construction to be implemented, which establish noise-induced injury prevention thresholds that call for Sound Exposure Levels (SELs) not to exceed 160 dB re 1 $\mu Pa^2 \cdot s$ and a peak-to-peak sound pressure level not to exceed 190 dB re 1 µPa at a distance of 750 m. Similar noise monitoring should also ensure these threshold levels are not exceeded in this operation.

Additionally a Marine Mammal Observer (MMO) should record all sightings and operations, including activation of all acoustic equipment, and conduct effort watches with detailed recording of marine mammal interactions with survey operations, where these may occur. If operations are occurring in more than one location simultaneously this would require a second MMO. The MMO should be authorised to stop or delay operations where safe to do so, if there is a clear disturbance and conflict with the Habitats Directive Article 12, and report on the rationale for any such decision immediately to the regulator. PAM (Passive Acoustic Monitoring) would greatly assist the correct reporting of noise production activities and allow identification of specific activities and operations which cause disturbance. These could then be more accurately monitored and reported by mitigation monitoring personnel.

Yours sincerely

Irish Whale and Dolphin Group Ltd.,
Merchant's Quay, Kilrush, Co. Clare, V15 E762, Ireland
Tel: +353 (0)65 9051763 ~ 086 854 5450
Email: enquiries@iwdg.ie website: www.iwdg.ie
Registered Charity No.: CHY11163 : Limited Company No. 332093

Patrick Lyne IWDG
Patrick.lyne@iwdg.ie

References

Deng A.D., Southall B., Carlson T.J., Xu J., Martinez J.J., Weiland M.A., Ingraham J.A. (2014). 200 kHz Commercial Sonar Systems Generate Lower Frequency Side Lobes Audible to Some Marine Mammals. PLoS ONE 9(4): e95315. doi:10.1371/journal.pone.0095315.

Kongsberg (2016). High Precision Acoustic Positioning 502/452/352/102 systems. HiPAP High Precision Acoustic Positioning, Product description. 400578/D. Kongsberg Maritime AS, Norway. [online] https://www.kongsberg.com/globalassets/maritime/km-products/product-documents/hipap-502_452_352_102 (accessed 05/11/2021).

Lurton X., and DeRuiter S., (2011) Sound Radiation ofSeafloor-Mapping Echosounders in the water column, in Relation to the Risks Posed to Marine Mammals. International Hydrographic Review.

Sonardyne (no date). ROVNav 6 LBL Transceiver and USBL Responder. Datasheet. [online] https://www.str-subsea.com/uploads/Sonardyne-8310-ROVNav-6-LBL-Transceiver-ROV-Only.pdf (accessed 05/11/2021).

Tritech (no date). MicroNav system. Product Manual 0656-SOM-00001-06. [online] https://www.tritech.co.uk/media/support/manuals/micronnav-system-operator-manual.pdf (accessed 05/11/2021)

11th November 2021

Geoscience Regulation Office,
Department of the Environment, Climate and Communications,
29-31 Adelaide Road,
Dublin,
D02 X285.

Submitted via e-mail to GSRO@decc.gov.ie

Our Ref: 501.00269.00004 L2

Your Ref: Public consultation on the application for decommissioning of certain facilities within the Kinsale Area gas fields (KADP)

Dear Sir/Madam

RE: THE LEAVING IN-SITU OF THE 24" EXPORT PIPELINE (OFFSHORE AND ONSHORE SECTION), THE FILLING OF THE ONSHORE SECTION WITH GROUT AND DECOMMISSION OF THE INCH TERMINAL

SLR Consulting Ireland acts as planning and environmental advisors to Predator Oil and Gas Holdings Plc, 3rd Floor Standard Bank House, 47-49 La Motte Street, St. Helier, Jersey JE2 4SZ. This submission relating to the Kinsale Area Decommissioning Project (KADP) has been prepared on their behalf.

Predator Oil and Gas Ventures Ltd., a wholly owned Predator Oil & Gas Holdings Plc subsidiary, has applied for a follow-on Exploration Licence as provided for under the terms of Licensing Option 16/30 which includes the Marathon 49/19-1 Ram Head gas discovery made in 1984 and the 49/14-1 tested gas discovery made in 1974/75. The rationale is to develop Ram Head as gas storage infrastructure with in place cushion gas linked to the Mag Mell LNG FSRU gas import facility. The Ram Head gas storage project will make use of existing assets and infrastructure, in particular the existing Petronas 24" export pipeline from the decommissioned Kinsale Head Gas Field that ties directly into the Irish gas transmission network at the onshore Inch Terminal where there is a GNI entry point. Ram Head represents a gas storage opportunity for Ireland, which is an integral part of Ireland's current energy strategy. The IEA and the Irish Academy of Engineering have also expressed their support for the development of gas storage in Ireland ((Irish Academy of Engineering, , 2018) (International Energy Agency, 2019)

Ireland is entering a period of major transition of its energy systems as part of the national Climate Action Plan 2019 objective to double the electricity generated from renewable sources to 70% of the nation's consumption with the majority of the remaining 30% of electricity generated from natural gas. Maintenance of energy security for Ireland within this transition period depends on the provision of a strategic natural gas storage facility such as Ram Head to provide security of supply for the national network.

This submission considers the scope of the Ram Head project in respect of the KADP and reviews the alignment of the KADP with the infrastructure requirements of Ram Head.

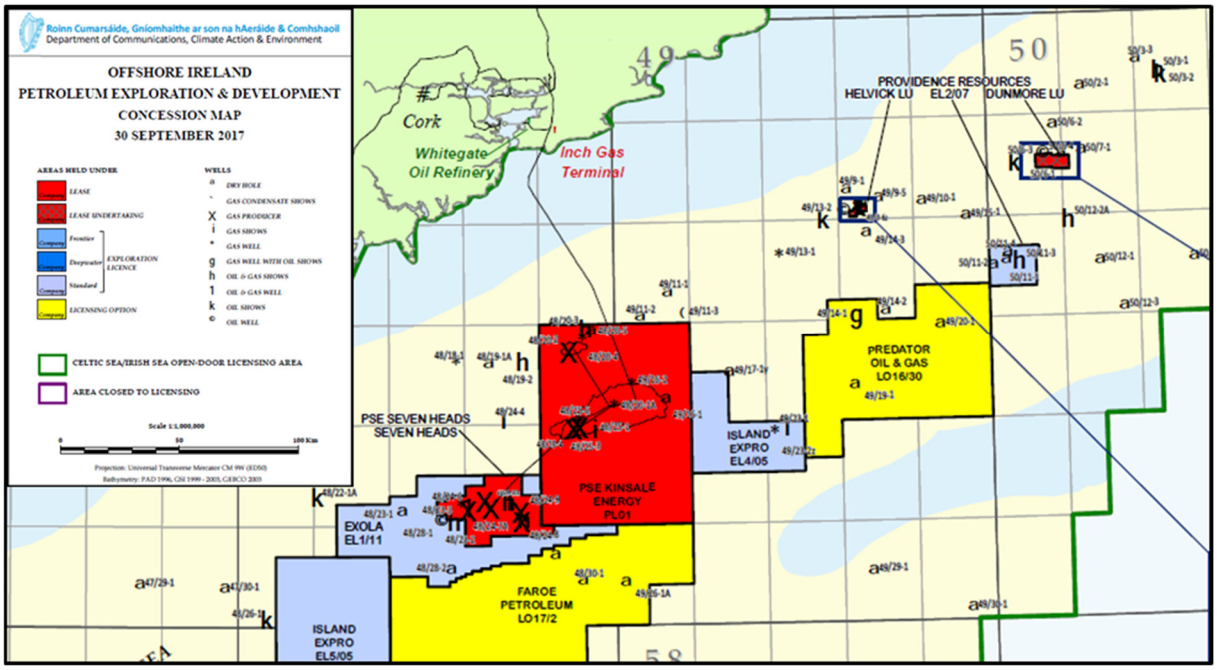
The submission is structured as follows,

- Project Concept and Proposal
- Subject Site Context
- Basis of the Submission
- Submission Comments
- Concluding Remarks

PROJECT CONCEPT AND PROPOSAL

The proposed Ram Head gas storage facility is located 40 km east of the Kinsale Head Gas Field in 294 ft water depth. Gas storage will be in either Lower Cretaceous or Jurassic reservoirs with the first phase of gas storage focussed on the shallow Lower Cretaceous reservoirs. Lower Cretaceous sands are identified in the 49/14-1 gas discovery well in reservoirs favourable for gas storage by comparison with the production history of the Seven Heads gas field and the history of storage operations at the now depleted SW Kinsale storage facility. Jurassic reservoirs are identified in the Marathon dry gas discovery well 49/19-1 drilled in 1984. Licensing Option 16/30 is currently the subject of an application for a successor authorisation – a Standard Exploration Licence.. The proposed gas storage facility would utilise the 24”inch export pipeline and Inch Gas Terminal, both subject of the KADP decommissioning plan.

Figure 1 Location LO16/30 Ram Head Gas Storage



The Ram Head Gas Storage Project is consistent with the findings of the GNI/EIRGRID Long Term Resilience Study (2018) that includes the development of permanent gas storage as one of the options to improve Ireland’s security of supply position.

SUBJECT SITE CONTEXT

As described, the Ram Head gas storage facility will make use of existing assets and infrastructure, in particular the existing Petronas 24" export pipeline from the decommissioned Kinsale Head Gas Field that ties directly into the Irish gas transmission network at the onshore Inch Terminal where there is a GNI entry point.

Figure 2 Site context map illustrating the existing Kinsale Areas Gas Fields in relation to the Inch Terminal and the wider Gas Network (Source: *Kinsale Area Gas Fields Decommissioning Project Information Leaflet*).

BASIS OF THE SUBMISSION

National Marine Planning Framework

The repurposing of the decommissioned 24" export pipeline (offshore and onshore section) associated with the Kinsale Head gas fields is an integral element of the Ram Head Gas Storage Project, in keeping with the NMPF objective of supporting the development of additional natural gas import infrastructure (Transmission Policy 6). The repurposing of the decommissioned 24" export pipeline will avoid the adverse environmental impact of constructing a new pipeline.

The National Marine Planning Framework (NMPF) is a national plan for Ireland's maritime area, setting out, over a 20 year horizon, how the country of Ireland wants to use, protect and enjoy its seas. The NMPF sits at the top of the hierarchy of plans and sectoral policies for the marine area. It is described that the plan has been informed by existing sectoral plans and will, in turn, be used to inform future cycles of those plans in an ongoing feedback loop. It is stated that it provides a coherent framework in which those sectoral policies and objectives can be realised. It will become the key decision-making tool for regulatory authorities and policy makers into the future in a number of ways including decisions on individual consent applications which will have to secure the objectives of the plan, similar to the way that terrestrial plans form part of the decision-making toolkit in the on-land planning process.

The NMPF notes that the 2015 Energy White Paper acknowledges that natural gas will continue to play an important role in the energy transition, firstly to ensure system flexibility and inertia with more renewables in the power sector and, secondly to substitute for fuels with higher carbon emissions for heating purposes and in transport. The Department of the Environment, Climate and Communications (DECC) is conducting a review of the security of energy supply of Ireland's electricity and natural gas systems, which includes the need for gas storage. This study will inform the formulation of future policy measures to maintain the resilience of Ireland's gas and electricity supply.

Linkage with land planning and the National Planning Framework

The National Marine Planning Framework (NMPF) is a parallel document to the National Planning Framework (NPF). The NPF is a national document to guide at a high-level strategic terrestrial planning and development for the country over the next 20+ years, so that as the population grows, that growth is sustainable in economic, social and environmental terms.

The NPF recognises the importance of integration between land and marine planning through chapter **7 Realising our Island and Marine Potential** and the many shared aims and overlapping areas of co-ordination and activity across the two regimes. The NPF contains 6 national planning objectives that are specific to the marine sector.

Similarly, the NMPF mutually recognises the importance of integration and co-ordination with the land planning regime at national, regional and local levels. In future it will be equally important in turn those national, regional and local terrestrial plans are consistent with the NMPF, as they will be required to do under the Planning and Development Act 2018. Many activities and uses that take place on land or in the sea can have impacts on both the land and the maritime area. The Marine Spatial Planning Directive requires that these interactions are considered.

National Development Plan

The National Development Plan 2018 – 2027 (NDP) sets out the investment priorities that will underpin the successful implementation of the MNPF and NPF. It is described that this will guide national,

regional and local planning and investment decisions in Ireland over the next two decades to cater for an expected population increase of over 1 million people.

Of significance to this submission, the section titled **Commercial State Sector Investments** describes that a significant proportion of this renewable power generation is being delivered from wind energy but given **the intermittent nature of this technology, a proportion of Ireland's electricity needs will likely continue to be generated from gas over the medium to longer term.** It is stated that it will therefore remain necessary for a certain level of gas fired generation to continue to be available to ensure continuity of supply and the integrity of the electricity grid during the transition towards a low-carbon energy system.

SUBMISSION COMMENTS

The following outlines the key points that Predator Oil and Gas Holdings Plc would like to address in relation to the proposed decommissioning of certain facilities of the Kinsale Area Decommissioning Project (KADP) and its concept Ram Head Gas Storage Project, that would make use of the existing 24" pipeline connected to the GNI entry point at the onshore Inch Terminal.

In the KEL EIAR Vol 1 of May 2018 under Consideration of Potential Alternative Uses the use of the main 24" export pipeline and landfall at the Inch Terminal as import infrastructure for offshore gas storage was not considered. In the KEL EIAR Addendum 1 of 8th August 2019 Consultation Table Predator Oil and Gas Holdings Plc was not included. Therefore, we submit that:

- The Ram Head Gas Storage Project provides a viable alternative re-use option for the 24" export pipeline and the Inch Terminal.
- Predator Oil and Gas Holdings Plc objects to the proposed plan under KEL's Consent Application 3 to fill the onshore section of the 24" export pipeline with grout. The intention is to grout the onshore pipeline section during the decommissioning of the Inch Onshore Terminal site.
- Predator Oil and Gas Holdings Plc objects to the proposed plan under KEL's Consent Application 3 to decommission the Inch Terminal.
- DECC should consider adopting a Deferral and Phased Decommissioning approach as practiced in the UK. This approach recognises that disused facilities including pipelines may represent important infrastructure. Where a specific opportunity has been identified deferral of decommissioning can be considered.
- Alternatively, DECC might consider adopting an Interim Pipeline Regime as practised in the UK. The Interim Pipeline Regime is intended to ensure out of use lines do not pose a risk to other users of the sea or the environment and that they are covered by an appropriate surveying and maintenance regime from the point when they are taken out of use by one operator until approval of the final decommissioning programme of another operator.

Predator Oil and Gas Holdings Plc contends that the 24" export pipeline could be left in a state of interim decommissioning (i.e. as is, filled with inhibited seawater) until such time as access to the pipeline and Inch Onshore Terminal is established by the Ram Head Gas Storage project. Predator Oil and Gas Holdings Plc further contends that the filling of the onshore section of 24" export pipeline with grout and the decommissioning of the associated Inch Onshore Terminal is premature and a decision to grant consent by DECC can be deferred without adversely affecting the overall decommissioning cost or schedule

The objections are lodged now due to the fact that Predator Oil and Gas Holdings Plc was overlooked in the KEL stakeholder engagement process.

KEL and DECC Compliance with Consultation and Stakeholder Engagement

Predator Oil and Gas Holdings Plc is not included in KEL's stakeholder register referenced in KEL's Consent Application 3 of 30th September 2021 although Paul Griffiths has been in contact with DECC, concerning the extension of the Licence Option 16/30 for the Ram Head Gas discovery.

The PSE KEL Consent letter states that following discussions with DECC regarding potential future use of the facilities, it was the position of the Department that Consent Application No. 3 should be submitted on the basis that arrangements are **not** to be made to provide for the future use of the pipelines. Did the Department take into account the ongoing discussions with Predator Oil and Gas Holdings Plc on the Ram Head Licence Option 16/30 Extension in reaching this position?

KEL's Consent Application 2 of August 2019 states that a leave in situ option, particularly with regard to the main 24" export pipeline and landfall, could facilitate the re-use of the pipeline infrastructure in the future.

Preliminary studies into the use of the Kinsale Head reservoir and facilities for CCS have been undertaken by Ervia and these indicate that re-use of the platform jackets as part of a CCS project is not viable, although the 24" export pipeline could possibly be re-used.

In his report to DECC on 28th November 2019 on KEL's Consent Application No. 2 Stephen Jewell of Selgovia Limited (retained by DECC as petroleum engineering advisor) stated that KEL remains open to the possibility that some of the pipelines might be preserved for reuse pending more detailed study of such options. Has a more detailed study of those options been carried out by KEL?

It should be noted that the 'Long Term Resilience Study' (Gas Networks Ireland EIRGRID, 2008) concluded that the development of permanent gas storage is one of the options to improve Ireland's security of supply position.

It is submitted that the proposed Ram Head Gas Storage Project should be considered a key project, as it would enable Ireland to ensure energy security of supply by providing an alternative source of gas, through the use of existing infrastructure. In support of this it should be noted that diversification of supply sources is considered paramount both for energy security as well as for competitiveness.

Security of Supply and Public Interest Considerations

Natural gas storage as proposed by the RAM Head Gas Storage Project is well established as an issue of 'public interest'. By virtue of targets and actions set within the Government's Climate Action Plan, Ireland is entering a period of major transition of its energy systems, including increasing the proportion of the electricity generated from renewable sources to 80% of the country's final consumption. This target was set in the Climate Action Plan in October 2021, with the majority of the remaining 20% of electricity anticipated to be generated from natural gas. The maintenance of energy security within this transition period is critical to the Plan's success, and the provision natural gas storage is acknowledged as having the potential to make a major contribution to our energy security.

In terms of wider energy security considerations, the following factors are important:

- Ireland's demand for electricity is expected to increase in the coming years due to increased electrification in the heat and transport sectors and growth in demand from large energy users such as data centres;

- following the phasing out of peat and coal use for electricity generation, Ireland's security of electricity supply is expected to become much more dependent on natural gas which is likely to be the principal source of non-variable generation supporting variable renewable sources such as wind and solar;

- there will be a significant reduction in indigenous supplies of natural gas due to production at the Kinsale fields having ceased in July 2020, and the planned tapering decline in production from Corrib over the next decade;

- Ireland's gas import dependency is predicted to increase from over 50% in 2019 to circa 80% by the middle of the decade and to over 90% import dependency by 2030;

- all of Ireland's natural gas imports are sourced (via the two pipelines) from a single supply point at Moffat in Scotland with no alternative import routes;

- there is no natural gas storage in Ireland at present; and

- the UK has left the European Union which will lead, at the end of the withdrawal period, to difficulties for Ireland in meeting the requirements of EU law in relation to gas security of supply including potential challenges for future compliance with EU law including the "N-1" infrastructure standard and the supply standard.

As alluded to previously, several studies have examined Ireland's security of supply with a particular focus on natural gas. In November 2018 the Long-Term Resilience Study was published[1] by GNI and EirGrid and examined Ireland's resilience to a prolonged gas disruption. It made recommendations on how Ireland can future-proof its gas supply.

In addition, in July 2018, the Irish Academy of Engineering published a report[2] on the role of natural gas in Ireland's energy security. The report highlighted the following key conclusions,

1. Natural Gas is critical to Ireland's Energy Supply

   Gas plays a critical role in Ireland's energy mix. Gas supplies around 30% of Ireland's total primary energy and is used to generate about 50% of Ireland's electricity. Many indigenous and multinational companies in Ireland rely on gas. Approximately 650,000 households in Ireland depend on natural gas for home heating.

2. Natural gas will be essential for Ireland's transition to a low-carbon future

   Electricity generation in Ireland in the future will be a combination of renewables and natural gas. Ireland's dependence on natural gas for electricity generation will increase further when coal and peat use in generation end. Gas would then account for over 90% of Ireland's electricity generation at times of very low renewables generation. Natural gas has the lowest carbon emissions of all fossil fuels and is the ideal complement to renewables. Gas will also be

[1] Gas Networks Ireland and Eirgrid (2018) *Long Term Resilience Study.*

[2] Irish Academy of Engineering (2018), *Natural Gas Essential for Ireland's Future Energy Security.*

needed for many industries in Ireland where there is no low-carbon alternative. Gas will be critical for Ireland's transition to a low-carbon future.

3. Ireland will have no indigenous natural gas supply after 2030

   Corrib will only supply around 20% of Ireland's annual gas demand in 2025. Corrib production will cease by around 2030. This will leave Ireland in the vulnerable position of having no indigenous gas supply and being totally dependent on gas imports from Britain.

4. Ireland needs to develop alternative gas supply sources

   Ireland needs to develop diverse sources and routes of gas supply to ensure its energy security in the longer term. By 2030, Britain will need to import 75% of its gas due to the decline in North Sea production. The gas supply route to Ireland will be longer than at present with a greater risk of supply disruption. Ireland should have at least two separate supply sources and supply routes. Developing a gas storage project at Ram Head would enhance Ireland's security of supply and provide access to the competitive global gas market. Exploration for offshore gas should be promoted in parallel. Options of gas storage in Ireland also need to be assessed.

5. A Strategic plan for gas supply security is needed.

   A strategic government plan is needed to diversify Ireland's gas supply. This strategic plan should include appropriate fiscal, licensing and legislative frameworks to facilitate the development of new sources of gas supply and encourage investment. The plan needs to factor in a lead-time of five to ten years for large energy infrastructure developments in Ireland.

However, it should be noted that there have been a number of important developments since both of these studies were published. These include,

- a new target of 70% for the level of electricity generated from renewable sources by 2030 has been set;
- clarity that the UK will leave the internal energy market and the full spectrum of EU energy law will no longer apply to the UK;
- the planned closure of two of the three peat-fired power stations and the significant reduction in generation of electricity from coal increasing the reliance of the electricity supply in Ireland on natural gas in the near term; and
- a reduction in the number of active petroleum exploration licences and the commitment in the Programme for Government to end the issuing of new licences for the exploration and extraction of gas, which in turn means a significant reduction in the likelihood of additional indigenous production of natural gas.

In light of the above, it is considered that these previous studies are no longer considered to be fully representative of the key risks to security of supply in natural gas and electricity systems. In response, the Department of the Environment, Climate Actions and Communications has therefore commissioned a further study on the Security of Energy Supply of Ireland's Electricity and Natural Gas

Systems. This newly commissioned study is expected to be published in Q2 2022 and will include extensive stakeholder consultation and the preparation of a technical analysis to inform a full strategic review.

It is hoped that the Ram Head Gas Storage Project will be included in the consultation process of this review during 2021. In this regard, and with respect to the above points it is submitted that the proposed KEL Consent Application No.3 should acknowledge the Ram Head Gas Storage Project that would make use of the existing 24" pipeline and associated AGI connected to the GNI entry point at the onshore Inch Terminal.

Deferral and Phased Decommissioning

Predator Oil and Gas Holdings Plc contends that the 24" export pipeline could be left in a state of interim decommissioning (i.e. as is, filled with inhibited seawater) until such time as access to the pipeline and Inch Onshore Terminal is established by the Ram Head Gas Storage project.

UK Government guidance on decommissioning pipelines is outlined in Offshore Oil and Gas Decommissioning Guidance Notes November 2018, published by the Department for Business, Energy and Industrial Strategy. These Guidance Notes include the following provisions:

- Sections 5.18 to 5.23 (see extract below) recognise that decommissioning can be deferred stating that "disused facilities including pipelines may represent important UKCS infrastructure and provide the means for the further development of hydrocarbon reserves, or the storage of carbon dioxide or hydrocarbon gas. Where a specific opportunity has been identified deferral of decommissioning can be considered".
- Sections 10.23 to 10.27 (see extract below) address the situation where a pipeline reaches the end of its operational life substantially in advance of the other facilities in the field. In this case decommissioning of the pipeline is deferred, and the pipeline is considered to form part of an "Interim Pipeline Regime".

Predator Oil and Gas Holdings Plc understands that decommissioning of the Kinsale Field is taking place because of the cessation of production, but the 24" gas export pipeline has not necessarily reached the end of its operational life. Industry best practice makes provision for the deferral of decommissioning if reuse is an option, and furthermore the concept of "interim decommissioning" is acknowledged and allowed for in international decommissioning guidance documents.

CONCLUDING REMARKS

This submission has set out the rationale that Predator Oil and Gas Holdings Plc would like to highlight in support of a concept Ram Head Gas Storage making use of the existing 24" pipeline connected to the GNI entry point at the onshore Inch Terminal. It is submitted that the proposed KEL Consent Application No.3 should acknowledge the potential alternative use of the existing 24" pipeline and the onshore Inch Terminal by the Ram Head Gas Storage Project and modify the decommissioning plan accordingly.

We request that the following be inserted in the second paragraph of Section 3.3 of the KEL Consent Application 3:

"Five potential re-uses have been considered at a high level. These are hydrocarbon production, carbon capture and storage (CCS), Floating LNG Storage and Regasification, offshore gas storage, and offshore wind energy production".

Section 3.3 of the EIAR should include reference to the Ram Head Gas Storage Project.

KEL EIAR Addendum No.2 of 30th September 2021 should acknowledge that an alternative re-use and operator has been identified for the existing 24" pipeline and the onshore Inch Terminal by the Ram Head Gas Storage Project.

The failure by KEL and DECC to recognise Predator Oil and Gas Holdings Plc. as a stakeholder in the decommissioning consultation process potentially represents, in legal terms, an attempt at constructive termination of parts of its long-established business in Ireland. In the interests of absolute transparency, please indicate why Predator Oil and Gas Holdings Plc. was not identified as a stakeholder during the decommissioning consultation process and why the Ram Head Gas Storage option for the use of the Kinsale pipeline was not considered. Predator regards this as a very grave matter deserving your full attention as no legislation existed at the time of the decommissioning submissions that prevented re-use of the Kinsale facilities. Indeed, quite the opposite, the 2007 Offshore Licensing Terms and Conditions, which are still in force, specifically provide circumstances where the facilities could be used by third parties.

We trust that the rationale as outlined in this submission is both understood and justified but should you have any queries, please do not hesitate to revert to the undersigned.

Yours faithfully
Nick O'Neill
SLR Consulting Ireland

REFERENCES

Gas Networks Ireland EIRGRID. (2008). *Long Term Resilience Study.*

International Energy Agency. (2019). *Energy Policies of IEA Countries - Ireland 2019 Review.*

Irish Academy of Engineering, . (2018). *Natural gas - essential for Ireland's future energy security .*

11th November 2021

Geoscience Regulation Office,
Department of the Environment, Climate and Communications,
29-31 Adelaide Road,
Dublin,
D02 X285.

Submitted via e-mail to GSRO@decc.gov.ie

Our Ref: 501.00269.00004 L2

Your Ref: Public consultation on the application for decommissioning of certain facilities within the Kinsale Area gas fields (KADP)

Dear Sir/Madam

RE: THE LEAVING IN-SITU OF THE 24" EXPORT PIPELINE (OFFSHORE AND ONSHORE SECTION), THE FILLING OF THE ONSHORE SECTION WITH GROUT AND DECOMMISSION OF THE INCH TERMINAL

SLR Consulting Ireland acts as planning and environmental advisors to Mag Mell Energy Ireland Ltd, 3rd Floor Standard Bank House, 47-49 La Motte Street, St. Helier, Jersey JE2 4SZ. This submission relating to the Kinsale Area Decommissioning Project (KADP) has been prepared on their behalf.

'Mag Mell' is the name of a proposed Liquified Natural Gas (LNG) Floating Storage Regasification Unit (FSRU) located beyond the horizon, some 50km off the Cork coast. It is a strategic offshore LNG storage facility designed to provide enhanced security of energy supply for Ireland's energy network with less environmental impact than land-based energy infrastructure.

The Mag Mell FSRU Project, importing non fracked gas, provides a flexible, temporary solution to Ireland's energy security during the energy transition. Mag Mell Energy Ireland Ltd has contracted with Gas Networks Ireland on advance works to assess the upgrades required to the onshore gas network to facilitate the connection of the Mag Mell LNG FSRU to the GNI entry point at Inch via utilising the Kinsale offshore pipeline for gas imports.

The Mag Mell LNG storage unit will make use of existing assets and infrastructure, in particular the existing Petronas 24" export pipeline from the decommissioned Kinsale Head Gas Field that ties directly into the Irish gas transmission network at the onshore Inch Terminal where there is a GNI entry point.

Mag Mell Energy Ireland Ltd objects to the application by PSE Kinsale Energy Ltd to:

- fill the onshore section of the 24" export pipeline with grout as set out in the Decommissioning Plan - Kinsale Head Petroleum Lease (OPL 1) Consent Application no.3. The intention is to grout the onshore pipeline section during the decommissioning of the Inch Onshore Terminal site (see page 33 Kinsale Head Petroleum Lease OPL 1 Consent Application no.3)

- decommission the Inch Onshore Terminal with full removal and reinstatement to agricultural use as per the terms of the site planning permission of Cork County Council planning reference 2929/76 (see page 4 Kinsale Head Petroleum Lease OPL 1 Consent Application no.3)

Mag Mell Energy Ireland Ltd contends that the 24" export pipeline could be left in a state of interim decommissioning (i.e. as is, filled with inhibited seawater) until such time as access to the pipeline and Inch Onshore Terminal is established by the MAG Mell LNG FSRU project. Mag Mell Energy Ireland Ltd further contends that the filling of the onshore section of 24" export pipeline with grout and the decommissioning of the associated Inch Onshore Terminal is premature and a decision to grant consent by DECC can be deferred without adversely affecting the overall decommissioning cost or schedule.

SUBMISSION COMMENTS

The following outlines the key points that Mag Mell Energy Ireland Ltd would like to address in relation to the proposed decommissioning of certain facilities of the Kinsale Area Decommissioning Project (KADP) and its concept FSRUP, that would make use of the existing 24" pipeline connected to the GNI entry point at the onshore Inch Terminal.

Point of Fact

Kinsale Head Petroleum Lease (OPL 1) Consent Application no.3 is made on the basis that it is the position of DECC "that arrangements are **not** to be made to provide for the future use of the pipelines".

The refusal by DECC, on 30th October 2020, of Predator Oil and Gas Holdings PLC's request of 20th October 2020 for a virtual meeting to discuss the ownership and access to the Kinsale pipeline and the decision by DECC to inform KEL that arrangements are **not** to be made to provide for the future use of the pipeline, potentially represents, in legal terms, an attempt at constructive termination of parts of Predator Oil and Gas Holdings PLC's long-established business in Ireland.

In the KEL EIAR Vol 1 of May 2018 under Consideration of Potential Alternative Uses the use of the main 24" export pipeline and landfall at the Inch Terminal as import infrastructure for floating LNG was not considered. In the KEL EIAR Addendum 1 of 8th August 2019 Consultation Table Predator Oil and Gas and Mag Mell were not included. Therefore, we submit that:

- The Mag Mell FSRU Project provides a viable alternative re-use option for the 24" export pipeline and the Inch Terminal.
- Mag Mell Energy Ireland Ltd objects to the proposed plan under KEL's Consent Application 3 to fill the onshore section of the 24" export pipeline with grout.
- Mag Mell Energy Ireland Ltd objects to the proposed plan under KEL's Consent Application 3 to decommission the Inch Terminal.
- DECC should consider adopting a Deferral and Phased Decommissioning approach as practiced in the UK. This approach recognises that disused facilities including pipelines may represent important infrastructure. Where a specific opportunity has been identified deferral of decommissioning can be considered.
- Alternatively, DECC might consider adopting an Interim Pipeline Regime as practised in the UK. The Interim Pipeline Regime is intended to ensure out of use lines do not pose a risk to other users of the sea or the environment and that they are covered by an appropriate surveying and maintenance regime from the point when they are taken out of use by one operator until approval of the final decommissioning programme of another operator.

The objections are lodged now due to the fact that Mag Mell Energy Ireland Ltd was overlooked in the KEL and DECC stakeholder engagement process despite verifiable correspondence between the Predator Group, including Predator Oil and Gas Ventures Ltd. and Predator LNG Ireland Ltd (now Mag Mell Energy Ireland Ltd) .

KEL and DECC Compliance with Consultation and Stakeholder Engagement

Neither Predator Oil and Gas or Mag Mell Energy Ireland Ltd are included in KEL's stakeholder register referenced in KEL's Consent Application 3 of 30th September 2021 although Paul Griffiths has been in contact with DECC, ERVIA and GNI, CRU and KEL concerning the use of the 24" export pipeline and Inch Onshore Terminal by the Mag Mell FSRU Project.

The PSE KEL Consent letter states that following discussions with DECC regarding potential future use of the facilities, it was the position of the Department that Consent Application No. 3 should be submitted on the basis that arrangements are not to be made to provide for the future use of the pipelines. Did the Department consider the Mag Mell FSRU Project in reaching this position, given that Mr Paul Griffiths on 20th October 2020 requested by letter a meeting with the DECC to discuss the ownership and access to the Kinsale pipeline?

DECC's letter of 30th October 2020 clearly states that "the Department is conducting a review of the security of energy supply of Ireland's electricity and natural gas systems…..The review will consider a wide range of options including energy storage, additional gas import capacity (including LNG terminals)….. The outcome of the review will inform future policy considerations including the future use of the Kinsale Head Gas Field and such decisions will not be made in advance of the outcome of the review of energy security". The contract to undertake a Technical Analysis to inform a Review of the Security of Energy Supply of Ireland's Electricity and Natural Gas Systems was awarded to CEPA on 24th March 2021. The RFT timelines said that that the draft version of the supplementary report (the third report) would be issued within 11 months of commencing the project and the final version within 12 months of commencing the project. The final report is expected Q2 2022. It is therefore clearly premature for DECC to approve consent to fill the onshore section of the 24" export pipeline with grout. Indeed the current Licensing Terms for Offshore Oil and Gas Exploration, Development & Production 2007 empowers the Minister to require the owner of facilities to enter into discussions …on the utilisation of facilities with persons in addition to the owner.

KEL's Consent Application 2 of August 2019 states that a leave in situ option, particularly with regard to the main 24" export pipeline and landfall, could facilitate the re-use of the pipeline infrastructure in the future.

Preliminary studies into the use of the Kinsale Head reservoir and facilities for CCS have been undertaken by Ervia and these indicate that re-use of the platform jackets as part of a CCS project is not viable, although the 24" export pipeline could possibly be re-used.

In his report to DECC on 28th November 2019 on KEL's Consent Application No. 2 Stephen Jewell of Selgovia Limited (retained by DECC as petroleum engineering advisor) stated that KEL remains open to the possibility that some of the pipelines might be preserved for reuse pending more detailed study of such options. Has a more detailed study of those options been carried out by KEL?

It should be noted that GNIs and Eirgrids' 'Long Term Resilience Study 2018'[1] concluded that the most economically advantageous option for Ireland to enhance its security of supply is a floating LNG terminal, along with bio-methane integration. These measures would significantly improve Ireland's security of supply position.

It is submitted that the proposed FSRUP should be considered a key project that would enable Ireland to ensure energy security of supply by providing an alternative source of gas, through the use of existing infrastructure. In support of this it should be noted that diversification of supply sources is considered paramount both for energy security as well as for competitiveness. Ensuring that all Member States have access to liquid gas markets is a key objective of the EU's Energy Union[2].

The Department of the Environment, Climate Actions and Communications has commissioned a study on the Security of Energy Supply of Ireland's Electricity and Natural Gas Systems. This newly commissioned study is expected to be published in Q2 2022 and will include extensive stakeholder consultation and the preparation of a technical analysis to inform a full strategic review.

It is hoped that the Mag Mell FRSU will be included in the consultation process of this review during 2021. In this regard, and with respect to the above points it is submitted that the proposed KEL Consent Application No.3 should acknowledge the Mag Mell FSRUP Project that would make use of the existing 24" pipeline and associated AGI connected to the GNI entry point at the onshore Inch Terminal.

Deferral and Phased Decommissioning

Mag Mell Energy Ireland Ltd contends that the 24" export pipeline could be left in a state of interim decommissioning (i.e. as is, filled with inhibited seawater) until such time as access to the pipeline and Inch Onshore Terminal is established by the MAG Mell LNG FSRU project.

UK Government guidance on decommissioning pipelines is outlined in Offshore Oil and Gas Decommissioning Guidance Notes November 2018, published by the Department for Business, Energy and Industrial Strategy. These Guidance Notes include the following provisions:

- Sections 5.18 to 5.23 (see extract below) recognise that decommissioning can be deferred stating that "disused facilities including pipelines may represent important UKCS infrastructure and provide the means for the further development of hydrocarbon reserves, or the storage of carbon dioxide or hydrocarbon gas. Where a specific opportunity has been identified deferral of decommissioning can be considered".
- Sections 10.23 to 10.27 (see extract below) address the situation where a pipeline reaches the end of its operational life substantially in advance of the other facilities in the field. In this case decommissioning of the pipeline is deferred, and the pipeline is considered to form part of an "Interim Pipeline Regime".

Mag Mell Energy Ireland Ltd understands that decommissioning of the Kinsale Field is taking place because of the cessation of production is, but the 24" gas export pipeline has not necessarily reached the end of its operational life. Industry best practice makes provision for the deferral of decommissioning if reuse is an option, and furthermore the concept of "interim decommissioning" is acknowledged and allowed for in international decommissioning guidance documents.

[1] Gas Networks Ireland and Eirgrid (2018) *Long Term Resilience Study.*

[2] European Commission (2016) *Liquefied Natural Gas and gas storage will boost EU's energy security.*

KEL advise in their Consent Application that these activities will be completed from onshore and do not require any specialized offshore vessels or equipment. These activities therefore could easily be deferred to some later date, and at no apparent additional cost. It is to be noted that KEL indicate in their submission that other decommissioning activities may be deferred to 2023 (e.g. jacket removal).

DECC has commissioned a study into the security of energy supply to the island of Ireland, and this study has not yet been completed. The contract for this work was awarded in May 2021 (OJS contract award notice 2021/S 093-244025), and the expected timeframe for the report was 12 months (Reference: DECC Request for Tender RFT100519 for the provision of Consultancy Services to undertake a Technical Analysis to inform a Review of the Security of Energy Supply of Ireland's Electricity and Natural Gas Systems). It is assumed that LNG projects such as Mag Mell will be considered as an integral part of this study. Mag Mell therefore contend that the above listed decommissioning activities should not be carried out until such time as this study is completed and the importance of LNG projects to the security of supply to the country, is established and understood.

Further to the security of supply issue as outlined, EirGrid the national TSO, have advised that energy shortages are likely in the winter 21/22 leading to black outs. Further electricity outages are considered likely in the coming years. This highlights the need to keep gas storage options open and adds further weight to the deferral of the 24" gas export pipeline decommissioning.

In summary, based on the foregoing, Mag Mell Energy Ireland Ltd contends that a decision to proceed with the demolition of the onshore Inch Terminal and the installation of a grout plug in the onshore pipeline and landfall section is premature, and that consent can be deferred without affecting the overall decommissioning cost or schedule.

REQUESTS FOR CLARIFICATION & FURTHER INFORMATION

Based on the Consent Application No. 3 submitted by PSE Kinsale Energy Ltd , Mag Mell Energy Ireland Ltd has the following requests for clarification and additional information required to integrate the reuse of the 24" gas export pipeline in the Mag Mell LNG FSRU project engineering design:

1. It is indicated that the 24" pipeline has already been filled with inhibited seawater and disconnected from KA platform. Please can this be confirmed. Also, it is unclear where the 24" pipeline has been disconnected from the KA platform (e.g. at top or bottom of riser). Please can the point of disconnection be confirmed.
2. It is not indicated if the connection between the 24" pipeline and the riser/spoolpieces at the base of the KA platform are welded or flanged connections. Please can this be clarified, and if it is a flanged connection please provide details of the flange type.
3. It is indicated that no subsea intervention is required if/when the grout plug is pumped in at the onshore end of the 24" pipeline. This infers that there is some type of end fitting already installed on the subsea end of the 24" pipeline. Please can details of this end fitting be provided (e.g flanged or welded, flange type, valving details, etc).
4. Please provide details of the chemicals used to inhibit the seawater prior to filling the 24" pipeline (i.e. type, specification/datasheet, dosage, period of time the protection provides, when inhibiting chemicals were introduced, etc).
5. It is assumed that the operator has carried out periodic internal in-line inspections (ILI) of the 24" pipeline. Please provide the latest ILI reports and data. In particular, please provide the report and data from the most recent ILI. If possible, please also provide historical ILI data so that the rate of any corrosion can be assessed.

6. It is assumed that the operator has also carried out periodic external survey inspections of the 24" pipeline. Please provide the latest survey reports and data. In particular please provide the latest report and data from any cathodic protection surveys performed.
7. The 24" pipeline is reported to have been installed in 1977 and given the timeframe it is assumed that the operator will have been obliged to gain approval of any critical changes in design details and/or operating limitations for the 24" pipeline. Please provide details of any such changes and any safety case submissions required to obtain approval to operate.
8. It is assumed that an integrity management system was in place by the operator. Please provide the latest annual report/s regarding integrity assessment/s for the 24" pipeline.

CONCLUDING REMARKS

This submission has set out the rationale that Mag Mell Energy Ireland Ltd would like to highlight in support of a concept LNG FSRU making use of the existing 24" pipeline connected to the GNI entry point at the onshore Inch Terminal. It is submitted that the proposed KEL Consent Application No.3 should acknowledge the potential alternative use of the existing 24" pipeline and the onshore Inch Terminal by the Mag Mell LNG FSRU Project and modify the decommissioning plan accordingly.

We request that the following be inserted in the second paragraph of Section 3.3 of the KEL Consent Application 3:

"Five potential re-uses have been considered at a high level. These are hydrocarbon production, carbon capture and storage (CCS), Floating LNG Storage and Regasification, offshore gas storage and offshore wind energy production".

Section 3.3 of the EIAR should include a paragraph on Floating LNG Storage and Regasification.

KEL EIAR Addendum No.2 of 30th September 2021 should acknowledge that an alternative re-use and operator has been identified for the existing 24" pipeline and the onshore Inch Terminal by the Mag Mell LNG FSRU Project.

The failure by KEL and DECC to recognise Predator Oil and Gas Ventures Ltd. and Predator LNG Ireland Ltd (now Mag Mell Energy Ireland Ltd) as stakeholders in the decommissioning consultation process potentially represents, in legal terms, an attempt at constructive termination of parts of their long-established business in Ireland. In the interests of absolute transparency, please indicate why Predator Oil and Gas Ventures Ltd. and Predator LNG Ireland Ltd (now Mag Mell Energy Ireland Ltd) were not identified as stakeholders during the decommissioning consultation process and why the LNG FSRU option for the use of the Kinsale pipeline was not considered. Predator regards this as a very grave matter deserving your full attention as no legislation existed at the time of the decommissioning submissions that prevented re-use of the Kinsale facilities. Indeed, quite the opposite, the 2007 Offshore Licensing Terms and Conditions, which are still in force, specifically provide circumstances where the facilities could be used by third parties.

We trust that the rationale as outlined in this submission is both understood and justified but should you have any queries, please do not hesitate to revert to the undersigned.

Yours faithfully
Nick O'Neill
SLR Consulting Ireland

Kinsale Head Consent Application no. 3" and "Seven Heads Application no. 2

VC
Val Cummins <Val.Cummins@simplybluegroup.com>
To GSRO
Cc Gordon.Shearer@shell.com; Rory Shanahan

Reply | Reply All | Forward

Wed 17/11/2021 15:35

Follow up. Start by Wednesday 17 November 2021. Due by Wednesday 17 November 2021.
You replied to this message on 11/01/2022 13:52.

To whom it concerns,

We note the application for consent to decommission the Kinsale gas export pipeline and would like to make a proposal that the pipeline is not decommissioned as planned but rather kept in a preservation state for further use. Specifically, we would suggest that the landfall is not grouted, and the presentation state is left full of inhibited seawater or some other preservation medium. There are potential reuse options that have not been fully assessed yet.

Section 3.3 of the consent application notes that the *Kinsale Area facilities (including pipelines and umbilicals) were designed for dry gas production and processing, and the majority of the facilities are now close to or beyond their original design lives. Nevertheless, parts of the facilities may have been suitable for re-use, depending on the service, particularly the main Kinsale and Seven Heads export pipelines.. Three potential re-uses have been considered at a high level. These are hydrocarbon production, carbon capture and storage (CCS) and offshore wind energy production. An assessment of the alternatives and other uses are outlined in full at Sections 3.3 and 3.4 of the EIAR. Following discussions with DECC regarding potential future use of the pipelines, it was the position of the Department that Consent Application 3 should be submitted on the basis that arrangements are not to be made to provide for the future use of the pipelines. Kinsale Energy is proceeding with decommissioning on the basis that none of the pipelines or umbilicals will be re-used.*

Section 3.3 of the EIAR considers hydrocarbon production, CCS and wind energy production. Specifically on wind energy production:
Offshore Wind Energy Production - The main 24" export pipeline and landfall could possibly have a use as a cable conduit, for either fibre optic or high-voltage direct current (HVDC) cables (for example as part of a windfarm). The platform jackets could be used to support HV convertor stations. Kinsale Energy is not aware of any wind farm development being considered for the vicinity of any of the Kinsale Area facilities, so no proposal currently exists at this time.

We consider that the future wind energy options have not been fully considered as using the pipeline as a conduit for HV cables could be feasible for selected sections such as the landfall area to avoid further beach trenching. This requires further assessment and is not covered directly in the current EIAR. We do have a project in development in potentially close proximity to the Kinsale Area facilities. In addition, there may be the potential to reuse the pipeline for hydrogen transportation as either part of an offshore hydrogen reservoir storage facility or as a buffer storage in itself.
We believe these options should be considered fully before any permanent state of decommissioning is enacted.

Your sincerely,
Val Cummins.

Val Cummins
Emerald Project, Managing Director
Director, Simply Blue Energy

emerald Floating Wind
Simply Blue Group

T:+353 87 230 8965 W:www.emeraldfloatingwind.com W:www.simplybluegroup.com
Head Office, Floor 3, Centre Park House, Centre Park Road, Blackrock, Cork City, T12 RK0N, Ireland

dCarbonX
The GeoEnergy Company

Private & Confidential

Geoscience Regulation Office,
Department of the Environment, Climate and Communications,
29-31 Adelaide Road,
Dublin,
D02 X285,
Ireland.

Re: Public consultation on the application for decommissioning of certain facilities within the Kinsale Area gas fields

15 November, 2021

Dear Sir/Madam,

Please see below a submission from dCarbonX Limited ('dCarbonX') responding to the Department of Environment, Climate & Communications ('DECC') on the above referenced public consultation.

Submission on the application
dCarbonX considers the Kinsale Area gas field pipelines to be potential national strategic assets essential to Ireland's security of energy supply, net zero commitments & future offshore wind resource development:

- Ireland currently imports ~60% of its natural gas and 100% of its oil consumption. The only Irish indigenous gas production is from the Corrib gas field which is expected to cease production by the end of the decade;

- Ireland has had no large-scale natural gas storage capacity since the closure of the SW Kinsale gas storage facility in 2017. Imported natural gas enters Ireland via a single entry point at Moffat, Scotland, which post-Brexit now lies outside the EU in a 'third country' jurisdiction. Natural gas power production is currently the cleanest baseload support for balancing Ireland's increasing intermittent renewable energy generation capacity;

- In order for Ireland to decarbonise its non-power generation sectors such as heavy transportation, industry, shipping & heating, it is clear that molecules such as green hydrogen & hydrogen carriers will be required in the national energy mix. These molecules can be generated using renewable sources such as wind and solar during times of peak generation when the grid is over-supplied. Large-scale storage of these molecules will be required to balance the energy load and manage Ireland's renewable energy resources;

- Ireland possesses the highest average sustained wind speeds in the European Union. The Sustainable Energy Authority of Ireland (SEAI) estimates that €100-200 billion of investment in Irish offshore wind will occur by 2050 supporting the development of over 40 GW of generation capacity. Wind Energy Ireland, the industry advocacy group, recently reported that c. 22 GW of capacity is already in development. Such significant, albeit intermittent, energy generation

capacity would exceed Irish domestic market consumption and drive the requirement for large-scale energy storage capacity development.

Overview on dCarbonX

dCarbonX is a GeoEnergy company focused on developing offshore subsurface energy storage and carbon sequestration assets to facilitate the Energy Transition. To achieve this, dCarbonX uses its proprietary subsurface knowledge and operational experience to originate and build a portfolio of Energy Transition assets with a specific focus on subsurface hydrogen / hydrogen carrier storage and carbon sequestration assets.

As a demonstration of this, dCarbonX has established a strategic partnership with ESB for the joint assessment and development of offshore green hydrogen / hydrogen carrier subsurface storage and the company is also collaborating with US multi-national Pentair, to advance Carbon Capture & Sequestration projects in Ireland and the United Kingdom to help mitigate carbon emissions. dCarbonX is strategically and technically supported by several leading international companies including Stena Drilling, AGR, Fugro, Geostock & CGG.

Context of the Submission

As Ireland moves forward with its ambitious plans to achieve its climate and de-carbonisation objectives by 2050, unprecedented changes will be required within the energy industry in Ireland over what is a relatively short period of time (30 years).

As the DECC is only too aware, Ireland has acute short-term and longer-term issues to ensure that it can deliver on its core objectives of:

- Energy Security & System Resilience
- Net Zero
- Affordable Energy
- Energy Independence
- Wind Energy Resource Development

To achieve these objectives, a host of solutions are required including but not limited to increased renewables penetration, energy system upgrades, more interconnectivity, consumer behaviour changes and integrated energy management, whilst ensuring that Ireland also has in place vital energy security of supply.

dCarbonX sees large-scale energy storage as a key requirement as Ireland moves forward. With indigenous gas production falling, and with the Kinsale gas storage facility now de-commissioned, Ireland has no large-scale indigenous gas storage capacity. Whilst it is acknowledged that batteries may help to provide some measure of storage capacity for the electricity grid, Ireland currently has no large-scale energy storage capacity.

dCarbonX
The GeoEnergy Company

Future Energy Transition Plans using Hydrogen / Hydrogen Carriers as the storage medium
As part of the Energy Transition, dCarbonX sees a significant future role for green hydrogen / hydrogen carriers produced from Ireland's exceptional wind energy resources. dCarbonX's joint venture with the ESB for green hydrogen storage provides a staged pathway to achieve this, including the recently announced Green Hydrogen @ Kinsale project. dCarbonX completed a new proprietary study of the energy storage potential using hydrogen / hydrogen carriers in the reservoirs of the Kinsale Area gas fields. This study indicated that the area has the potential to host c. 3 TWh of energy storage capacity with significant further upside potential.

It is clear that hydrogen / hydrogen carriers and their safe storage will play a pivotal role in delivering Ireland's decarbonisation plans whilst providing indigenous energy security of supply. Long-term, hydrogen / hydrogen carriers will provide affordable resilient energy and represents a transformational export opportunity in the decades ahead.

Summary
dCarbonX believes a full assessment of the potential reuse of the Kinsale Area gas field pipeline infrastructure for future energy storage capacity development, considering our present and future national energy context, should be carried out before choices become further limited by ongoing abandonment activities.

- The storage of hydrogen / hydrogen carriers was not considered as a potential reuse option by the Operator during its assessment.

- The availability of suitable pipelines and plant could vastly reduce both cycle times and costs for any future energy storage project in the area which would be positive in terms of Ireland's security of supply.

We trust this submission to the consultation process will be given due consideration by DECC and we are as always available to provide any further clarity to you as required.

Yours sincerely,

Dr John M. O'Sullivan
Director
dCarbonX Ireland Limited